

DEPARTMENT OF COMMERCE METERING PLAN

July 25, 2006

OBJECTIVE: This plan has been prepared to guide Department of Commerce (DOC) Operating Units in the planning and installation of basic and/or advanced meters by October 1, 2012. The Department firmly believes that monitoring energy consumption is essential to effectively manage energy consumption.

BACKGROUND: This plan is required by the Energy Policy Act of 2005 (Public Law 109-58), Section 103, Energy Use Measurement and Accountability. Operating Units may issue supplemental guidance, if necessary.

This plan is based largely on the Department of Energy guidance document entitled [Guidance for Electric Metering in Federal Buildings](#)¹ and consists of high-level goals and milestones. The actual actions required to satisfy these goals would be more complex than those presented in this plan. The guidance document contains a wealth of information including definitions of specialized terminology, information about financing options, and a discussion of the factors that facility managers should consider in making decisions about metering. Operating Unit personnel should familiarize themselves with the guidance document, and carefully consider all of the elements required to complete the milestones and goals.

THE PLAN: The plan is presented in four Phases:

- I. Identify Buildings Requiring Metering,
- II. Identify Best Metering Approach,
- III. Execute Metering Plan, and
- IV. Performance Metrics.

Phases I, II, and III are chronological, while Phase IV spans the entire course of the metering plan.

In addition to meeting the mandated requirements for electrical metering, all sites using central heating and/or cooling plants should also consider evaluating the installation of meters for chilled water, hot water, and/or steam at each building, using the same general criteria outlined below for electrical usage.

PHASE I: Identify Buildings Requiring Metering - Identify all buildings² that are required to either have new basic³ or advanced electrical metering installed or have current metering modified in order to meet the mandated requirements.

¹ This document is available at http://www1.eere.energy.gov/femp/pdfs/adv_metering.pdf.

² For metering purposes only, the definition of “building” is any building or structure that is not considered excluded or exempt from energy reduction goals, i.e., radio transmitters, radars, and other similar systems.

³ Basic metering will only be installed in buildings without current metering, and where advanced metering is not cost effective.

Major Milestone: Complete all actions by **March 31, 2007**.

Responsible organizations: DOC & Operating Units

Discussion: A large number of DOC buildings are managed by the General Services Administration (GSA.) GSA has indicated that it is their responsibility to include GSA-managed buildings in the GSA Metering Plan. The DOC plan is limited to those buildings that are managed by a DOC Operating Unit, whether owned, leased, or delegated. For most DOC Operating Units, this means that only a small number of buildings are affected by the requirements. The single exception to this is the National Oceanic and Atmospheric Administration (NOAA), which owns and leases numerous buildings scattered throughout the United States and its territories. For this reason, DOC has worked closely with NOAA to develop a single plan for DOC and its Operating Units.

Step 1: Identify appropriate buildings for further screening

- Owned buildings – All owned buildings will be subject to further screening in Step 2. The sole exception to this is buildings that will be transferred from the DOC property records by October 1, 2012; these buildings will not be screened and will be eliminated from further evaluation.
- Leased buildings^{4 5} – All leased buildings with leases extending past October 1, 2012, will be subject to further screening in Step 2. Any property subsequently acquired under a new lease that extends past October 1, 2012, will be subject to Step 2 screening during the leasing process, unless the lease is a fully serviced lease.
- Delegated GSA buildings – All Delegated GSA buildings will be treated as owned buildings for metering purposes and will be subject to screening in Step 2.

Step 2: Screen identified buildings

- Determine annual electric utility usage. DOC will evaluate buildings using the data collected from utility bills in the FY 2003 Energy Usage Baseline review, if available. Newer buildings without historical data will be evaluated on recent or projected energy bills.
- Based on the FEMP analysis for estimated minimum electric bills for cost effectiveness, DOC will use a threshold of \$40,000 per year for electrical usage to determine priority for further evaluation. Any buildings that are eliminated from further evaluation at this step will be reassessed in 5 years.

Step 3: Determine metering compliance status

- Collect data on number and type of meter(s) currently in use, as well as information on unique building features for which separate metering may be desirable.⁶

⁴ Only consider those leased properties for which the government is responsible for paying utility bills.

⁵ DOC will assist realty specialists in identifying guidance for estimating energy usage on future leases (i.e. if future lease will exceed \$40K in annual electrical usage.)

⁶ This includes special operations or equipment that should be monitored separately, or tenant billing as deemed appropriate.

- Determine current metering status (complies/does not comply) for all buildings that pass the initial screening of electric costs in Step 2.
- If existing metering meets the standards outlined in Section 103 of the Energy Policy Act of 2005, an Operating Unit official should report full compliance to the DOC Energy Manager. A sample Facility Certification format is shown in Appendix A of this plan.

Step 4: Identify buildings where a metering upgrade is required

- All buildings that do not meet the requirements of the Energy Policy Act of 2005 will be reported to the DOC Energy Manager for further tracking.
- Identify Bureau, Line Office, and/or building metering POC(s) who will be responsible for coordination of meter installation at existing buildings. The project manager will be the metering POC for new construction projects.

PHASE II - Identify Best Metering Approach

Major Milestone: Complete all actions by **September 30, 2007**.

Responsible organizations: DOC & Operating Units

Discussion: Due to the diverse nature of the department and its buildings, we do not anticipate using a “one-size fits all” approach to metering. If buildings are identified as requiring a metering upgrade to comply with the Energy Policy Act of 2005, various metering options will be examined. Decision factors include available technologies, budgets for purchase/installation of equipment, and resources for data management.

Step 1: Examine hardware/software options

The Operating Unit will analyze various available options and determine the best metering option for the building. DOC will provide assistance, as needed:

- Smart meters – This includes meters that can perform all the functions needed to meet the requirements and intent of the Energy Policy Act of 2005. Such meters may be stand-alone meters or part of a metering system.
- Utility company options – Some utility companies offer services whereby energy consumption data collected by the utility company can be made available to the customer and viewed through an Internet connection. Other utility companies offer meter upgrade and installation services. These services are generally an extra cost item, but may be offered to large customers without additional charge.
- Other options – Additional options, such as using an existing energy management system, may be viable. Availability of this option will vary considerably from one facility to another.

Step 2: Develop data management plan:

In order to be useful, data gathered through metering must be monitored and used. Each Bureau or facility manager, as appropriate, should develop a data management plan for analyzing and using the data being collected. It is recommended that development of the data management plan be an integral part of the metering project design/development. In

most cases, this should be a team effort, including management and field personnel. Items to consider in developing the Data Management Plan include, but are not limited to:

- Who should review the data - will it be analyzed only by local people or will the data also be analyzed by regional or higher level people?
- How will the data be used?
- How and where will it be accessed and stored?

Step 3: Examine financing options.

Numerous financing options are available and are discussed in the DOE guidance document. Not all options are applicable to every situation. Financing options range from using appropriated funds to a variety of third party financing options.

Step 4: Decide on action plan.

Determine the best course of action, taking the findings of steps 1, 2, and 3 into consideration.

PHASE III - Execute Metering Plan

Major Milestone: Complete all actions by **October 1, 2012.**

Responsible organizations: DOC and Operating Units, with assistance from NREL

Discussion: Operating Units are responsible for budgeting for acquisition of the necessary metering technology to meet the Energy Policy Act of 2005 requirements, and for installing the metering in a timely manner.

Operating Unit responsibilities include the following:

- Prepare budget estimates, and including requirements in budget requests.
- Incorporate standard lease language to address meters in all new leases.
- Use standard contract language to address meters in construction projects.
- Prioritize and design projects, as needed.
- Schedule and execute projects to meet the deadline of October 1, 2012.

DOC responsibilities include:

- Provide management advice to Operating Units.
- Develop standard lease language and suggested contract language to address meters.
- Monitor and report progress toward meeting the requirements.

Operating Units should address the metering requirements for any building under construction or undergoing a major renovation as part of the construction or modernization project contract.

PHASE IV – Performance Metrics (DOC and Operating Units)

Major Milestones: Develop reporting format by **September 30, 2006**; reporting continues through at least **September 30, 2012.**

Responsible organizations: DOC & Operating Units

Discussion: The Department is required to periodically report on our progress toward fulfilling the EPACT 2005 metering requirements.

- DOC will work with the Operating Units to develop a format for tracking the progress and ensuring that all requirements are being met.
- Operating Units will submit their progress report to DOC on a quarterly basis, not later than 2 weeks after the end of the quarter, until such time as they are able to certify that all requirements have been met.

Appendix A: SAMPLE FACILITY CERTIFICATION

The following facility/facilities meet the Energy Policy Act of 2005 Section 103 requirements for advanced metering:

<u>Facility Name</u>	<u>Location</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

These facilities:

- ☐ Have at least one electric meter per building.
- ☐ Meters provide current consumption data in at least hourly intervals.
- ☐ Consumption data is stored for future use.
- ☐ Data is reviewed regularly by _____.
(Office or Position)

Certified by: _____
(Signature of Operating Unit Official)

Printed Name: _____

Position: _____